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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,957	02/04/2005	Walter Stieglbauer	STIEGLBAUER ET AL-2 PCT	1580
25889	7590	06/07/2006	EXAMINER KERNS, KEVIN P	
WILLIAM COLLARD COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			ART UNIT 1725	PAPER NUMBER

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/523,957	Applicant(s) STIEGLBAUER ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 2 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/4/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “evaluation means” (claims 1, 7, and 8) and the “strip (7) is conveyed on” – implying “conveying means” (claim 1) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this instance, the abstract includes the legal terms "means" and "said", as well as a phrase that can be implied. To correct the latter issue, replace "The invention relates to a" with "A" in the 1st line of the abstract.

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

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REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).
"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37
CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A
"Sequence Listing" is required on paper if the application discloses a
nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if
the required "Sequence Listing" is not submitted as an electronic
document on compact disc).

In this instance, the specification has no headings.

4. The use of the trademark MYLAR (on page 1, 11th line, of specification) has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

5. The disclosure is objected to because of the following informalities: throughout pages 1 and 3, all improper references to claim numbers (which often change during prosecution of the application) should be either revised or deleted. On page 4, 20th line, replace "type" with "tape" before "7". On page 8, 4th and 12th lines, replace "13" with "14" after "reproduction". On page 8, 5th line, it is unclear what is meant by "deposited

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factor". Corrections and/or clarifications are required for these and other errors that occur throughout the specification.

Claim Objections

6. Claim 2 is objected to because it includes a reference character which is not enclosed within parentheses. In this instance, claim 2 includes "strip 7" in the 8th line of the claim. Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

7. Claim 12 is objected to because of the following informalities: in the 3rd line, replace "of" with "or" before "foil". Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 1-12, these method claims are generally written in narrative format, rendering the claims indefinite. These method claims should be written to distinctly set forth positive, active process steps.

With regard to claims 1 and 6-12, the phrase "the welding spot" is indefinite, as this phrase is not conventionally used in the welding field. The applicants are instead suggested to replace "the welding spot" with the phrase "spot weld(s)".

With regard to claims 1 and 2, these claims include instances of three or more consecutive uses of "or" and "and/or" within the same general limitation, rendering the claims indefinite. The applicants are advised to list these consecutive limitations in proper Markush language for clarity.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

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In the present instance, claim 1 recites the broad recitation "quality of spot welds", and the claim also recites "particularly for robotic applications" which is the narrower statement of the range/limitation.

Claim 1 recites the broad recitation "evaluation means", and the claim also recites "in particular, optical visualization" which is the narrower statement of the range/limitation.

Claim 1 recites the broad recitation "mirror-inverted", and the claim also recites "in particular, proportional image or reproduction" which is the narrower statement of the range/limitation.

Claim 2 recites the broad recitation "condition", and the claim also recites "particularly color change, reaction or change in the aggregation state" which is the narrower statement of the range/limitation.

Claim 7 recites the broad recitation "evaluation means", and the claim also recites "particularly a camera" which is the narrower statement of the range/limitation.

With regard to claim 1, it is unclear what is meant by "which strip (7) is conveyed on after a welding process". There is no support in the drawings of a "conveying means" (see section 1). Should claim 1 instead include a step of "positioning" the strip?

Claim 1 recites the limitations "the same", "the welding spot", "the workpiece", and "the size, shape and position". There is insufficient antecedent basis for these limitations in the claim. It is noted above that "the welding spot" should be changed to "spot weld(s)".

With regard to claim 2, it is unclear what is meant by "tuned to the materials of the metal sheets". Should "tuned" be revised to include physically/chemically "matched" or "compatible" with physical/chemical properties of the other claimed material(s)?

Claim 2 recites the limitations "the temperature", "the condition", and "the aggregation state". There is insufficient antecedent basis for these limitations in the claim.

With regard to claim 3, the term "preferably" is indefinite, as it broadly recites an optional use of a tinplate strip or a strip having a tin coating. In this instance, it is suggested to delete the term "preferably" for this claim to be given patentable weight.

Claim 5 recites the limitation "the temperature". There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the evaluation". There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitations "the evaluation or determination", "the size, shape and position", "the welding spot", and "the dimensions". There is insufficient antecedent basis for these limitations in the claim. It is noted above that "the welding spot" should be changed to "spot weld(s)".

Claim 8 recites the limitations "the evaluation or determination", "the size, shape or position", and "the welding spot". There is insufficient antecedent basis for these limitations in the claim. It is noted above that "the welding spot" should be changed to "spot weld(s)".

With regard to claim 9, it is unclear what is meant by "deposited factor".

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With regard to claim 9, the term “preferably” is indefinite, as it broadly recites an optional use of a “deposited factor”. In this instance, it is suggested to delete the term “preferably” for this claim to be given patentable weight.

Claim 9 recites the limitations “the determined dimensions”, “the actual dimensions”, and “the welding spot”. There is insufficient antecedent basis for these limitations in the claim. It is noted above that “the welding spot” should be changed to “spot weld(s)”.

With regard to claim 10, it is unclear what is meant by a “deposited reference”.

Claim 10 recites the limitation “the welding point”. There is insufficient antecedent basis for this limitation in the claim. It is noted above that “the welding spot” should be changed to “spot weld(s)”.

Claim 11 recites the limitations “the determined dimensions” and “the welding spot”. There is insufficient antecedent basis for these limitations in the claim. It is noted above that “the welding spot” should be changed to “spot weld(s)”.

With regard to claim 12, the term “may comprise” is indefinite, as it broadly recites an optional evaluation of “several welding spots”. It is suggested to replace “may comprise” with “comprises” to more distinctly define this limitation. It is noted that “several welding spots” should be changed to “several spot welds”.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1-12 insofar as definite (in view of the 35 USC 112, 2nd paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii et al. (US 6,057,523) in view of Simmons (US 3,940,624).

Fujii et al. disclose a method of controlling welding conditions of a resistance spot welder, in which the method includes the steps of providing metal sheets (workpieces 11 of steel, aluminum, galvanized steel etc.) to be welded to each other by a resistance spot welder via providing current from a welding power supply 7 to welding electrodes 8; assessing the workpieces to be welded by an evaluation means that includes digital signal processing, detection, simulator, comparison (from a database), and control portions (combination of items 1-6 in Figure 1) to obtain accurate detection and control of the welding conditions during and after the welding process (abstract; column 3, lines

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9-53; column 4, line 12 through column 6, line 36; and Figure 1). Fujii et al. do not disclose the use of a strip or foil in combination with the detection means to monitor spot welds.

However, Simmons discloses a method for testing the integrity of a weld, in which the method includes the steps of forming spot weld(s) 24 and providing detection means that include an optical detector 60 (capable of obtaining an image/reproduction of the spot weld), a source 40 of infrared rays, and a small volume of liquid crystals 48 placed on a MYLAR film 46 (strip or foil), such that the MYLAR film (strip or foil) in combination with the detection means are advantageous for measuring and indicating the transfer characteristics, including the heat transfer characteristic of the spot weld and for determining the acceptability of the spot weld (abstract; column 1, lines 57-68; column 2, lines 1-53 and 66-68; column 3, line 1 through column 4, line 55; and Figures 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the method of controlling welding conditions of a resistance spot welder, as disclosed by Fujii et al., by adding the strip or foil in combination with the detection means to monitor spot welds, as taught by Simmons, in order to measure and indicate the transfer characteristics, including the heat transfer characteristic of the spot weld, thus determining the acceptability of the spot weld (Simmons; abstract; column 1, lines 57-68; column 2, lines 1-27; column 3, lines 2-9; and column 4, lines 45-55).

13. Claims 1-3, 5, 6, and 8-12 insofar as definite (in view of the 35 USC 112, 2nd paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii et al. (US 6,057,523) in view of Watanabe et al. (JP 4-17981).

Fujii et al. disclose a method of controlling welding conditions of a resistance spot welder, in which the method includes the steps of providing metal sheets (workpieces 11 of steel, aluminum, galvanized steel etc.) to be welded to each other by a resistance spot welder via providing current from a welding power supply 7 to welding electrodes 8; assessing the workpieces to be welded by an evaluation means that includes digital signal processing, detection, simulator, comparison (from a database), and control portions (combination of items 1-6 in Figure 1) to obtain accurate detection and control of the welding conditions during and after the welding process (abstract; column 3, lines 9-53; column 4, line 12 through column 6, line 36; and Figure 1). Fujii et al. do not disclose the use of a strip or foil in combination with the detection means to monitor spot welds.

However, Watanabe et al. disclose a method for detecting spot weld defects, in which the method includes the steps of forming spot weld(s) upon providing current to welding electrodes (6a,6b); and providing detection means that include a current and voltage monitoring device (capable of obtaining properties of the spot weld), an intermediate resin layer 2 laminated (coating film strip) between surfaces of steel sheets (1a,1b), such that the coating film strip in combination with the detection means are advantageous for detecting weld defects (abstract; and Figures 1-3).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the method of controlling welding conditions of a resistance spot welder, as disclosed by Fujii et al., by adding the resin layer (coating film strip) in combination with the detection means to monitor spot welds, as taught by Watanabe et al., in order to detect weld defects (Watanabe et al.; abstract).

14. Claims 1-3, 6, and 8-12 insofar as definite (in view of the 35 USC 112, 2nd paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii et al. (US 6,057,523) in view of Mueller et al. (US 5,961,854).

Fujii et al. disclose a method of controlling welding conditions of a resistance spot welder, in which the method includes the steps of providing metal sheets (workpieces 11 of steel, aluminum, galvanized steel etc.) to be welded to each other by a resistance spot welder via providing current from a welding power supply 7 to welding electrodes 8; assessing the workpieces to be welded by an evaluation means that includes digital signal processing, detection, simulator, comparison (from a database), and control portions (combination of items 1-6 in Figure 1) to obtain accurate detection and control of the welding conditions during and after the welding process (abstract; column 3, lines 9-53; column 4, line 12 through column 6, line 36; and Figure 1). Fujii et al. do not disclose the use of a strip or foil in combination with the detection means to monitor spot welds.

However, Mueller et al. disclose a method for testing the integrity of a weld, in which the method includes the steps of forming spot weld(s) upon providing current to

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welding electrodes 1 and electrode caps 4; and providing intermediate foil sections 10 that comprise foil strips 5 of high nickel content between surfaces of aluminum, magnesium, or copper sheets 3, such that the foil strips 5 are advantageous for reducing weld defects by protecting the electrodes and electrode caps (abstract; column 1, lines 10-16 and 61-67; column 2, lines 1-31 and 44-67; column 3, lines 1-67; column 4, lines 1-15; and Figure).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the method of controlling welding conditions of a resistance spot welder, as disclosed by Fujii et al., by adding intermediate foil sections that comprise foil strips, as taught by Mueller et al., in order to reduce weld defects by protecting the electrodes and electrode caps (Mueller et al.; abstract; column 1, lines 60-67; column 2, lines 1-31; and column 4, lines 12-15).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Denis et al., Takakuwa et al., Fujii et al. ('753), and Maetschke references are also cited in PTO-892.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns *Kevin Kerns 6/4/06*
Primary Examiner
Art Unit 1725

KPK
kpk
June 4, 2006